NATIONAL OILWELL VARCO

SAFETY ALERT

Product Information Bulletin No.: 129

Release — *Handling Tools*

Date: July 24, 2009

Subject: Dropped pipe incident using BX5 with square shoulder Riser Bushing.

Product: All BX5 Hydraulic Elevators (part no 50004000Y30 & Y10)

Objective: To inform the industry of a dropped pipe incident.

Issue: **This is a notice only.** NOV recently received a dropped pipe incident report. This incident occurred while the operator was using a BX5 elevator when handling square shoulder riser. NOV is collecting all data and information that possibly relates to the incident. At this time, it is not clear if the root cause is related to the BX5 or the operating process.

NOV has sold over 130 BX5 elevators since March 2004. The majority of these units have been in use for several years and NOV has not received any reported failures on any of these units.

Depending on our findings we will inform the industry and provide information on what corrective action, if any, is necessary.

NOV further recommends that when in use, the elevator be visually inspected on a daily basis for cracks, loose fits or connections, elongation of parts, and other signs of wear, corrosion or overloading. In addition to this NOV recommends that the elevator be inspected on a daily basis and before every trip to ensure the latch is functioning properly to fully latch. Also, ensure the latch signal is functioning properly to turn on the “elevator latched” indicator at the Driller’s console when the elevator is latched and to switch off the indicator when the elevator is open. NOV recommends the Driller checks this “elevator latched” indicator every time the elevator is closed and opened.

Any elevator found to not be functioning properly or found to show cracks, excessive wear, etc., shall be removed from service for further examination.

NOV recommends that you ensure the various daily, weekly, monthly, six month and annual inspections are carried out as detailed in the user manual. A part of the maintenance and operations section is attached to this bulletin for reference. The complete manual and product information is available through the below listed Internet page.

Operators should also refer to previous NOV Product Information Bulletins and Safety Alerts at http://www.nov.com/drilling for additional information regarding safe operation, maintenance, and inspection criteria.

Please contact your local National Oilwell Varco (NOV) Service Center if you have any questions regarding this Product Information Bulletin.

Failure to follow the recommendations and/or guidance in NOV Product Bulletins may result in death, bodily injury or property damage.

Weekly maintenance

Procedure
Weekly maintenance
Perform the cylinder adjustment test

Monthly maintenance

Procedure
Preservation. Use prescribed grease only
Fill space between springs and pins with grease

Six monthly inspection (cat III)

Procedure
Six montly inspection
Check orientation of elevator doors and latch (no visible drop allowed)
Check easy and full closing of latch onto its lug contact surface without touching bottom or top of lug

Six monthly inspection (cat III) on RIG

Procedure
Procedure on rig
MPI exposed critical areas according drawings CA-251, 252, 253 and 254. Check if indications are out of acceptance standard
If indications out of acceptance standard, remove elevator of service. The elevator needs repair at the nearest authorized repair facility. Please contact Varco BJ for guidance

Annual (1 year) inspection (cat IV)

Procedure
Annual (1 year) Inspection (cat IV) Follow procedures according chapter "Repair"
Magnetic Particle Inspection; please contact a Varco BJ repair center for guidance
Check for correct condition of cylinder seals

Maintenance procedures

API recommended practice according to API RP 8B

NOTE: NOV recommends maintenance acc. to API RP8B

Recommended inspections

The user/owner of the equipment should develop schedules of inspection based on experience, the manufacturer's recommendations, and one or more of the following factors:

environment; load cycles; regulatory requirements; operating time; testing; repairs; remanufacture.

Alternatively, NOV recommends using the Periodic inspection and maintenance Categories and Frequencies as mentioned in API RP8B Table 1. Long-term planning shall be adjusted in order not to interfere unnecessarily with the running operations.

5 Inspection and maintenance

5.1 General

5.1.1 Criteria

Inspection and maintenance are closely linked. Inspection and maintenance actions may be initiated based on, but not limited to, one or more of the following criteria: specific time intervals; measurable wear limits; load cycle accumulation; non-performance of equipment; environment; experience (history); regulatory requirements.

5.1.2 Safety considerations Operators shall review safety considerations applicable to the site where the maintenance activity is performed.

5.2 Maintenance

5.2.1 General

Maintenance of equipment consists of actions such as adjustments, cleaning, lubrication, and replacement of expendable parts. The complexity of these activities and the safety risks involved shall be considered in the assignment of appropriate resources such as facilities, equipment and qualified personnel.

5.2.2 Procedures

In addition to the procedures developed in accordance with 4.1, the manufacturer should define any special tools, materials, measuring and inspection equipment, and personnel qualifications necessary to perform the maintenance. The manufacturer should also specify those procedures that should be performed solely by the manufacturer, either within the manufacturer's facility or within another approved facility.

5.3 Inspection

5.3.1. General

The existence of cracks can indicate severe deterioration and impending failure. Their detection, identification and evaluation require accurate inspection methods. Prompt attention is then required either to remove the equipment from service immediately or to provide appropriate service and/or repair. Caution shall be exercised to take into account the increased susceptibility to brittle fracture of many steels when operating at low temperatures. If any manufacturing defects are discovered, they should be reported to the manufacturer or supplier.

5.3.2

Inspection categories

5.3.2.1 General The objective of these inspections is to detect service defects and possible hidden manufacturing defects. Inspection results shall be reported on equipment files and drawings.

Category I.

This category involves observing the equipment during operation for indications of inadequate performance. When in use, equipment shall be visually inspected on a daily basis for cracks, loose fits or connections, elongation of parts, and other signs of wear, corrosion or overloading. Any equipment found to show cracks, excessive wear, etc., shall be removed from service for further examination. The equipment shall be visually inspected by a person knowledgeable in that equipment and its function.

Category II.

This is Category I inspection plus further inspection for corrosion, deformation, loose or missing components, deterioration, proper lubrication, visible external cracks, and adjustment.

Category III

This is Category II inspection plus further inspection, which should include NOT of critical areas and may involve some disassembly to access specific components and to identify wear that exceeds the manufacturer's allowable tolerances.

Category IV

This is Category III inspection plus further inspection for which the equipment is disassembled to the extent necessary to conduct NDT of all primary-load-carrying components as defined by manufacturer. Equipment shall be:

- disassembled in a suitably-equipped facility to the extent necessary to permit full inspection of all primary-load-carrying components and other components that are critical to the equipment;
- inspected for excessive wear, cracks, flaws and deformations.

Corrections shall be made in accordance with the manufacturer's recommendations.

Prior to Category III and Category IV inspections, all foreign material such as dirt, paint, grease, oil, scale, etc. shall be removed from the concerned parts by a suitable method (e.g. paint-stripping, steam-cleaning, grit-blasting).

5.3.3 Frequency

5.3.3.1 Periodic inspection The user/owner of the equipment should develop schedules of inspection based on experience, the manufacturer's recommendations, and one or more of the following factors:

environment; load cycles; regulatory requirements; operating time; testing; repairs; remanufacture.

As an alternative, the user/owner may use Table 1 guidelines. Long-term planning shall be adjusted in order not to interfere unnecessarily with the running operations.

5.3.3.2 Non-periodic inspection A complete, on-job, shut-down inspection equivalent to the periodical Category III or Category IV (for the concerned equipment) should be made before (if anticipated) and after critical jobs (e.g., running heavy casing strings, jarring, pulling on stuck pipes and/or operating at extreme low temperatures).

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Operations

WARNING: Never exceed the load rating of the elevator, bushings and pipe at any given time in any situation.

WARNING: The Driller should be checking the latch indication is on and off every time the elevator is latched and unlatched. The frequency of checking for proper functioning of the latch should be at least daily and at the beginning of every trip.

Procedure

1. Check that the elevator, pipe/lifting tool, links and link adapter are all properly loaded and aligned to prevent unequal loading of any of these parts. Especially in case of increasing loads this may become critical, when the load is ditributed in an uneven way, the stress pattern in the elevator may change. This might affect the load rating of the elevator.
2. Ensure the latch feedback indication is on and off everytime the driller latches or unlatches the elevator. This test should be carried out at least daily and at the beginning of every trip.
3. Never attemp to hoist a pipe without having received a positive signal " elevator closed".
4. Never give the command "open elevator" while there is still load suspended in the elevator.
5. Never give the command " open slips" while there is still load suspended in the slips.
6. Use preferably a system, interlocking the BX-elevator with the Slips in the rotary in order to prevent the slips to open when the elevator is open and vice versa.
7. Releasing a load from the elevator into the Slips.
   a. Ensure the slips in the rotary are set. Verify the presence op "Slips Set" signal
   b. Lower the elevator. Observe hook load decrease an ensure load is transferred to slips completely.
   c. Slightly lower hook (2 inch max) in order to release latch lock pin from elevator
   d. Command elevator to open.
8. Picking up a load with the elevator.
   a. Ensure elevator is commanded "armed to close".
   b. Engage pipe with elevator.
   c. Elevator closes automatically.
   d. Observe indication "elevator closed".
   e. Pick up weight of pipe. Observe hook load to ensure this happens.
9. Now open slips and handle the pipe.
10. The sum of the static and dynamic load in the elevator shall never exceed the lowest value of:
    - the load rating of the elevator (verify load rating plate of elevator)
    - the load rating of the bushing (verify load rating stamped in bushing)
11. Verify pipe-load shoulder area for maximum contact stresses (verify according to examples in chapter " SPECIFICATION, Load ratings").
12. Ensure the heave-compensating system, if applicable, is in good working order.